

Remarks

Reconsideration of the application is respectfully requested. No new matter has been added to the claims.

5 Claims 1-2, 4-6 were rejected under Section 102 as being anticipated by or as obvious over Elmore. This rejection is respectfully traversed.

10 Claim 1 has now been amended to specify that the chips together with the acidic fluid are heated by steam in the steam treatment vessel for 1-20 minutes, that the chips fall down through a chute connected to the steam treatment vessel, and that an alkali impregnation fluid is added to the chute prior to the chips forming a slurry with the alkali impregnation fluid in the chute.

15 It is submitted that none of the cited references teaches or suggests the limitations of the amended claim 1.

As explained by the Examiner on page 3 of the Office action, the Examiner has treated Elmore's steaming vessel 13 combined with chute 14 as being the Elmore's "steam treatment vessel." It is asserted by the Examiner that an acidic fluid is added via line 19 to Elmore's "steam treatment vessel" (since the chute 14 has been treated by the Examiner as being part of the steam treatment vessel).

25 It is submitted that the currently amended claim 1 is distinctly different from Elmore and the other cited reference. At the most Elmore teaches the chips being heated by the steam and the acidic fluid in Elmore's steam treatment vessel for a fraction of a second as the chips fall through

the vessel into the slurry. Elmore completely fails to teach or suggest heating the chips together with the acidic fluid by the steam in the steam treatment vessel for a period of 1-20 minutes, as required by the amended claim 1. It is submitted  
5 that Elmore would require extensive modifications that are not taught or suggested, to enable the chips to be heated by the steam together with the acidic fluid for 1-20 minutes.

Even if Elmore could be modified to heat the chips together with the acidic fluid by steam for 1-20 minutes,  
10 Elmore still fails to teach or suggest the steps of the chips falling through a chute connected to a steam treatment vessel and adding an alkali impregnation fluid to the chute while the chips fall therethrough. In view of the interpretation that Elmore's steam vessel 13 and chute 14 are treated as the steam  
15 treatment vessel, Elmore fails to teach a chute connected to the steam treatment vessel. In other words, Elmore completely fails to teach or suggest the combination of adding an acidic fluid to the steam treatment vessel and adding an alkali impregnation fluid to the chute while the chips fall  
20 therethrough.

If Elmore's steam vessel 13 alone is treated as being equivalent to the "steam treatment vessel" of claim 1 then Elmore fails to teach or suggest adding an acidic fluid to his steam vessel 13. If Elmore's steam vessel 13 in  
25 combination with his chute 14 is treated as being equivalent to the "steam treatment vessel" of claim 1 then Elmore fails

to teach or suggest a chute connected to the steam treatment vessel and consequently he also fails to teach the step of adding an alkali impregnation fluid to the non-existing chute while the chips fall therethrough.

5 Elmore also fails to teach or suggest the step of forming the chips to a slurry in the chute with the alkali impregnation fluid. Firstly, and as indicated above, Elmore lacks the required chute. Secondly, even if Elmore shows a chute connected to a steam treatment vessel then Elmore fails  
10 to teach the forming a slurry in the chute with the alkali impregnation fluid since the white liquor (47) is added to the bottom of vessel 22 but not to Elmore's chute 14. There is no alkali impregnation fluid added to the chute (only acidic fluid).

15 The present invention as defined in the amended claims is related to augmented steaming where the natural effects of lowering the pH of the chips while steaming (due to release of the natural wood acidity) is improved as acidic liquid is added during steaming so that "*..at least a five-  
20 fold increase in an ionic concentration of hydrogen ions at the end of the steam treatment compared to steam treatment without adding the acidic fluid, ..*". This very principle is not suggested or taught in Elmore, as Elmore is only showing state-of-the art steaming, followed by slurrying the chips in  
25 acidic fluids. It is submitted the present invention dramatically reduces the necessary volumes of acidic fluids in

the pretreatment of chips. This not only reduces the environmental impact but also the need for handling acidic waste streams and the need for alkali in the subsequent establishment of alkali conditions for the cook.

5               Because Elmore would require modifications that are not taught or suggested in the cited references, it is submitted that it would not be obvious to modify Elmore and the other cited references to teach or suggest all the method steps of the amended claim 1.

10               Applicant fails to see why a person of ordinary skill in the art would look to Elmore and the other cited references to learn about heating the chips together with the acidic fluid by steam in the steam treatment vessel for 1-20 minutes in the steam treatment vessel, adding an alkali  
15   impregnation fluid to a chute connected to the steam treatment vessel and forming a slurry in the chute with the alkali impregnation fluid when these steps are missing in Elmore and the other cited references.

              It is thus submitted that the required modifications  
20   are not obvious and that Elmore and the other cited references would require extensive modifications that are not taught or suggested to meet the limitations of the amended claim 1.

              Claims 2, 4-6 are submitted to be allowable because they depend upon the allowable base claim 1 and because each  
25   claim includes limitations that are not taught or suggested in the cited references.

Claims 1-2, 4-6 and 8 were rejected under Section 103 as being obvious over by Elmore in view of Bilodeau. This rejection is respectfully traversed.

5 Claim 1 is submitted to be allowable for the same reasons as those put forth for the allowability of the amended claim 1 above. Bilodeau was merely cited to show that a conventional chip bin, steaming vessel and chip chute can be substituted by a single vessel. Bilodeau also fails to teach or suggest the steps of heating the chips together with the  
10 acidic fluid by the steam in the steam treatment vessel for 1-20 minutes. Additionally, Bilodeau fails to teach or suggest adding an alkali impregnation fluid to the chute, connected to the steam treatment vessel, while the chips fall therethrough.

15 The amended claim 1 is therefore submitted to be allowable.

Claims 2, 4-6 and 8 are submitted to be allowable because they depend upon the allowable base claim 1 and because each claim includes limitations that are not taught or suggested in the cited references.

20 Claim 3 was rejected as being as being obvious over Elmore in view of Bilodeau, as applied to claim 1-2, 4-6 above and further in view of Chemical Pulping by Gullichsen. This rejection is respectfully traversed.

25 Claim 3 is submitted to be allowable because it depends upon the allowable base claim 1 and because the claim includes limitations that are not taught or suggested in the

cited references.

5 Claim 7 was rejected under Section 103 as being obvious over by Elmore in view of Snekkenes (US Patent No. 6,203,662) and Bilodeau. This rejection is respectfully traversed.

Claim 7 is submitted to be allowable because it depends upon the allowable base claim 1 and because the claim includes limitations that are not taught or suggested in the cited references.

10 The application is now submitted to be in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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